IllusionHole

Juried Exhibit

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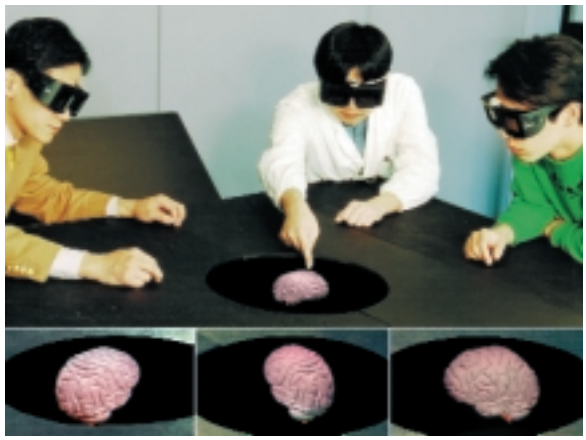
This interactive display system allows three or more moving observers to simultaneously observe stereoscopic image pairs from their own viewpoints. With a simple configuration, it provides intelligible 3D stereoscopic images free of flicker and distortion. The system consists of a normal display and a display mask, which has a hole in its center. The system tracks the head positions of all the users and generates distortion-free images for each eye of each user. Because the system controls the position of the image-drawing area for each user according to the corresponding user's viewpoint, each user can observe the stereoscopic image pairs shown in an individual area of the display system with shutter glasses.

IllusionHole is useful for applications in which several people work together to perform tasks or enjoy entertainment with a multiplier effect. A complicated set of data that is difficult for a single user to understand becomes a seed of discovery, training, teaching, conferencing, and communicating if it is shared by several people.

Feasible applications include, but are not limited to, engineering or industrial design and evaluation, scientific visualization, medical diagnosis and training, medical analysis, surgery planning, and consumer devices such as 3D TV or games. A paper about IllusionHole is presented in SIGGRAPH 2001 Papers:
Interactive Stereoscopic Display for Three or More Users
Yoshifumi Kitamura, Takashige Konishi, Sumihiko Yamamoto, and Fumio Kishino.

www-human.eie.eng.osaka-u.ac.jp/IllusionHole



IllusionHole shared by four users. The fourth user's view of human brain analysis. Three brain images at lower column show the views of users standing at left, center, and right, respectively.